NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION BUDGET, FISCAL YEAR 1989

HEARING

BEFORE THE

SUBCOMMITTEE ON OCEANOGRAPHY

OF THE

COMMITTEE ON MERCHANT MARINE AND FISHERIES HOUSE OF REPRESENTATIVES

ONE HUNDREDTH CONGRESS

SECOND SESSION

ON

THE PRESIDENT'S FISCAL YEAR 1989 BUDGET REQUEST FOR THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MARCH 9, 1988

Serial No. 100-48

Printed for the use of the
Committee on Merchant Marine and Fisheries

U.S. GOVERNMENT PRINTING OFFICE

85-617 WASHINGTON : 1988

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION BUDGET, FISCAL YEAR 1989

WEDNESDAY, MARCH 9, 1988

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON OCEANOGRAPHY,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:07 a.m., in room 1334, Longworth House Office Building, Hon. Mike Lowry (chairman of the subcommittee) presiding.

Present: Representatives Lowry, Shumway, Saxton, Saiki, Schneider, Hughes, Young, and Herger.

Staff present: Curtis L. Marshall, Jan Chisolm, and Larry Flick.

STATEMENT OF HON. MIKE LOWRY, CHAIRMAN, SUBCOMMITTEE ON OCEANOGRAPHY

Mr. LOWRY. The hearing will come to order, please.

Today we are here to hear about and examine the President's Fiscal Year 1989 budget request for the National Oceanic and Atmospheric Administration (NOAA).

The total NOAA request for its Operations, Research, and Facilities Account is $1,133,171, which is about $40 million less than the total amount available in Fiscal Year 1988.

On the whole, I am quite concerned about NOAA's budget request this year. We have seen a pattern develop at NOAA in recent years which has led to the gradual erosion of ocean and fisheries programs, and an increase in the expensive hardware oriented satellite and weather components of NOAA. In fact, this year's ocean, coastal and fisheries component of the budget is only 26 percent of the total budget, while in 1987 it was almost half the total budget. This trend is increasingly alarming as budgets shrink further under the Gramm-Rudman-Hollings deficit reduction. And, I believe that we are seriously reducing our Nation's civilian capacity to better understand and manage our Nation's ocean and coastal resources. With a 40 percent reduction in the budget of the National Marine Fisheries Service and a 39 percent reduction in funds for the National Ocean Service, we are severely impinging on many important research, data gathering, resource management, and conservation programs.

At the same time, we are reducing these oceans and fisheries programs, we see a 36 percent increase in the budget for the National Environmental Satellite, Data, and Information Service.

These programs may be worthy, but we cannot continue to fund these programs at the expense of oceans and fisheries programs.

For example, in Fiscal Year 1988, NOAA had set aside $57.5 million for commercialization of the LANDSAT satellite system. The Fiscal Year 1989 budget contains another $34 million. How much Federal money does it cost to commercialize the LANDSAT system? Isn't this really a subsidy for companies which have access to fairly large corporate resources? And, can we afford this kind of subsidy during an era of shrinking budgets? These are questions we must ask given the severity of the other program cuts.

On a positive note, I'd like to applaud NOAA for including some funds (approximately $12 million) for what is termed "global monitoring" studies which is aimed at helping us better understand such problems as global ozone problems and the greenhouse effect.

And finally, I'm pleased to add that I understand we are close to having a new Under Secretary confirmed in the very near future, and I look forward to working with Bill Evans to address some of the problems which NOAA has been having.

At this time I'd like to defer to our distinguished Ranking Minority Member, Mr. Shumway of California, for any opening remarks he may have.

STATEMENT OF HON. NORMAN D. SHUMWAY, A U.S. REPRESENTATIVE FROM CALIFORNIA

Mr. SHUMWAY. Thank you, Mr. Chairman.

I'm delighted to be here as well, and look forward to the testimony to be presented.

I, like you, recognize the tremendous resource value and economic potential which the ocean frontiers provide for our Nation. And NOAA certainly is in the forefront in terms of managing and advancing the potential in that area. At the same time, Mr. Chairman, we're all aware of the unacceptable Federal deficits that we have coped with now for so many years. I think we all realize that there isn't any one agency that must bear the brunt of budgetary actions, but they have to be spread somewhat evenly across the spectrum.

But, like you, Mr. Chairman, I have some concern about this year's NOAA budget. It calls for about $1.13 billion, which works out to be a reduction of $40.5 million from last year's appropriation. When broken down we see that most of the reductions in this year's request are taken from the ocean and coastal programs portion of the NOAA budget with a corresponding increase in the atmospheric and satellite programs. Most of these proposed reductions for ocean and coastal programs are repeats from previous years budget submittals by the Administration. No doubt most of the members of this committee, who have a particularly keen knowledge of our Nation's need for ocean policies and programs, will find the budget request to be unacceptably low. As a whole, I would have to agree that the Administration's proposal before us today cuts our Nation's ocean and coastal programs in a disproportionate fashion when considered against the atmospheric and satellite portions of the 1989 budget request.

However, I would suggest that in light of the overwhelming need to come to grips with our Nation's budget deficit, we must closely examine each and every one of the Administration's cost savings proposals.

Mr. Chairman, I know you're very much aware of these things as a member of the House Budget Committee. I'm sure that you're going to be taking a very serious look at any potential cost savings proposals. It's my hope that as we hear the testimony this morning, we can develop some means of working together to see that the cuts can be made as necessary, but also to see that vital programs are preserved for the benefit of the Nation, and particularly those that deal with the ocean and coastal programs.

I think perhaps the only difference we may have with some of the testimony this morning will be in this matter of priorities, but that nevertheless is our job and I think we can do it effectively. I look forward to hearing from Mr. Carey and the other witnesses.

Thank you, Mr. Chairman.

Mr. LOWRY. Thank you.

Mr. Saxton.

STATEMENT OF HON. JIM SAXTON, A U.S. REPRESENTATIVE FROM NEW JERSEY

Mr. SAXTON. Thank you, Mr. Chairman.

Let me thank you first for bringing us together for the purpose of this hearing this morning. And I'd also like to welcome Mr. Carey and thank him in advance of his testimony for, I believe he is enduring what one might describe as a demoralizing look at the proposed NOAA budget. And I know it's not pleasant for him as it's not for us.

And while troubled with the effects of this budget on NOAA's overall mission, I would like to concentrate my remarks here for just a minute on the National Ocean Services and Sea Grant College Programs, which are included in the proposal, and the reductions which those programs would face under the Administration's proposal. Perhaps even more demoralizing than facing budget reductions are direct threats to ones health and safety. Such threats are faced by users of our coastal resources when residents of this very city of Washington, D.C., have to question whether they can eat the fish they catch for fear of pesticide poisoning, and when visitors to our shores are faced with the prospect of swimming in waters tainted by various types of chemicals and medical waste, and various types of infectious waste.

I'm concerned. I'm concerned that at a time when Congress has shown a new resolve in trying to understand and resolve the environmental damage done, for example in Long Island Sound and the New York Bight. At the same time we see a budget that proposes reductions in environmental assessment for these very same places. When Congress has finally recognized the importance of the shellfish industry and the need for research to halt its decline, we see a budget that actually reduces funds available for shellfish research. Two weeks ago before this very same subcommittee we held a hearing on ocean dumping where we heard pleas from both sides for greater understanding of the effects of ocean disposal. And now we

see a budget that cuts the assessment and research programs for ocean disposal. This is, of course, very concerning to me.

New Jersey, the State I represent a part of, is a State with over 1,700 miles of coastline, 1,700 miles of interface between human society and its coastal resources, 1,700 miles and a multibillion dollar role in our State's economy. The continued health of our coastal resources is critical and the way that New Jersey handles these resources, I believe, will continue to serve as a model for the Nation. This interface between society, natural resources, and the science of understanding their relationship to each other is precisely what the Sea Grant College Program is all about.

The Sea Grant Program has proven a successful classroom for getting industry, academia, State, and Federal governments together to learn how to resolve many of our coastal issues. People involved in the Sea Grant Programs, individually and collectively, are problem solvers. And a program that I believe is of great importance to this entire area which concerns us all.

Some would argue that the problems Sea Grant solves are only of local value. However, the shellfish larvae, which the New Jersey Grant Program played such an important and integral role in identifying, float about in ocean currents that do not recognize State or even National boundaries. This is a very important Federal program in my estimation.

In an era of very tight budgets, we need to be looking for efficient, cost-effective uses of our limited dollars. And I agree with our ranking member, Mr. Shumway, fully in that area. The National Ocean Services and the Sea Grant College Programs are, in my opinion, programs which fit neatly into that concept. In my opinion, they're a good investment.

Thank you, Mr. Chairman.

Mr. LOWRY. Thank you.

The gentlelady from Hawaii, Ms. Saiki.

STATEMENT OF HON. PATRICIA SAIKI, A U.S. REPRESENTATIVE FROM HAWAII

Ms. SAIKI. Thank you very much, Mr. Chairman.

I, too, share the concerns expressed by my colleagues here this morning. And I will not go through the list that I have.

But specifically, a special concern over the impending cuts, deep cuts, of the National Sea Grant Program. And I look forward to the testimony this morning, and hopefully we'll be able to see some light at the end of this tunnel, because I, too, feel that the Sea Grant Program is very, very important to the future.

Thank you.

Mr. LOWRY. Thank you.

Mr. Shumway?

Mr. SHUMWAY. Mr. Chairman, I ask unanimous consent that the statement of Congressman Bob Davis appear in the record at this point.

Mr. LOWRY. Without objection, so ordered.

[The statement of Mr. Davis follows:]

STATEMENT BY THE HONORABLE ROBERT W. DAVIS (R.-MICH.) AT THE OCEANOGRAPHY SUBCOMMITTEE HEARING ON THE FISCAL YEAR 1989 NOAA BUDGET: MARCH 9, 1988.

IF THE BUDGET WE ARE LOOKING FOR TODAY WERE TO PASS, THE NATIONAL OCEANOGRAPHIC AND ATMOSPHERIC ADMINISTRATION WOULD BECOME SIMPLY THE NATIONAL ATMOSPHERIC ADMINISTRATION. FROM NOAA TO NAA---AND "NAA-AAH" SHOULD BE OUR RESPONSE TO THE DRASTIC CUTS IN OCEAN AND FISHERIES PROGRAMS YOU HAVE PROPOSED. IT CAN'T BE THAT THE ADMINISTRATION DOES NOT SUPPORT OCEAN AND COASTAL PROGRAMS; LOOK AT THE ENVIRONMENTAL PROTECTION AGENCY'S BUDGET, WHICH REQUESTS SIGNIFICANT INCREASES IN PROGRAMS BENEFITING OCEAN, COASTAL, ESTUARINE, AND GREAT LAKES AREAS.

NOAA TRIES TO DEFEND ITS RADICAL SURGERY ON THE COASTAL ZONE MANAGEMENT ACT STATE ASSISTANCE GRANTS, THE GREAT LAKES ENVIRONMENTAL RESEARCH LABORATORY (GLERL), AND THE NATIONAL SEA GRANT COLLEGE PROGRAM BY CLAIMING THESE ACTIVITIES BENEFIT ONLY REGIONAL INTERESTS.

THIS ARGUMENT COULD EASILY BE MADE ABOUT <u>ANY</u> FEDERAL PROGRAM. THE ADVANCES MADE BY COASTAL STATES IN MANAGING THEIR SHORELINES IS AN OBVIOUS CONTRIBUTION TO A GREATER NATIONAL INTEREST. THE WORK CONDUCTED BY GLERL IS CRITICAL TO BOTH THE GREAT LAKES, A RESOURCE YOU ADMITTED LAST YEAR WAS OF NATIONAL IMPORTANCE, AS WELL AS OTHER STATES FACING COASTAL EROSION AND POLLUTION

PROBLEMS. FINALLY, RESEARCH CONDUCTED UNDER SEA GRANT ALSO CONTRIBUTES TO AMERICA'S ECONOMIC HEALTH BY HARNESSING CONTRIBUTIONS FROM OUR OCEANS AND THE GREAT LAKES.

NOAA ALSO PROPOSES TO SLICE ITS 23-SHIP MARINE RESEARCH FLEET NEARLY IN HALF, DEACTIVATING SIX VESSELS AND REDUCING DAYS AT SEA FOR SEVEN OTHERS. IF NOAA FEELS THAT IT CAN ACHIEVE ITS MISSION WITH SUCH A GREATLY REDUCED SUPPORT BASE, MY QUESTION IS WHY MAINTAIN A FLEET AT ALL? PERHAPS THESE SHIPS COULD BE OPERATED MORE EFFICIENTLY BY THE COAST GUARD AS I HAVE PROPOSED UNDER H.R. 3299. FURTHER, IT HAS ALWAYS BOTHERED ME THAT NONE OF THESE SHIPS IS DEPLOYED IN THE GREAT LAKES, WHILE LAST YEAR WE APPROPRIATED $1.5 MILLION FOR EPA TO PURCHASE A NEW RESEARCH VESSEL FOR ITS GREAT LAKES PROGRAM. LAYING UP VESSELS WHICH COULD BE USED ELSEWHERE IS A POOR MANAGEMENT POLICY FOR THE FEDERAL GOVERNMENT, AND ONE WHICH WE CANNOT AFFORD.

ON THE BRIGHTER SIDE, I AM PLEASED TO SEE THAT NOAA IS TAKING STEPS TO BECOME A PLAYER, ALBEIT SMALL, IN THE SCIENCE OF GLOBAL CHANGE. THE NATIONAL ACADEMY OF SCIENCES AND NASA HAVE MADE LARGE BUDGET REQUESTS TO INITIATE INVESTIGATIONS INTO THIS INTEGRATED SCIENTIFIC AREA. WITH NOAA'S PARTICIPATION, WE CAN BE ASSURED THAT THE OCEANS WILL ALSO BE FACTORED INTO PREDICTIONS FOR WORLDWIDE CLIMATE CHANGES.

IN CONCLUSION, I APPRECIATE THAT WE MUST ALL MAKE HARD CHOICES TO QUELL THE GROWTH OF THE BUDGET DEFICIT. HOWEVER, I MUST DISAGREE WITH NOAA'S CHOICES; REQUESTING $134 MILLION FOR NEW SATELLITES WHILE SLASHING SIGNIFICANT OCEANS PROGRAMS SHORTCHANGES A VITAL PART OF NOAA, AS WELL AS THE NATION.

# # # # # #

RWD:LPM

Mr. LOWRY. Mr. Carey, we're delighted to have you here along with Mr. Thomas and Mr. Koffler. You are our first panel, and if you would just go ahead, Mr. John Carey, Deputy Assistant Administrator of NOAA, with your testimony. Your prepared statement will be inserted immediately following your oral presentation.

STATEMENT OF JOHN CAREY, DEPUTY ASSISTANT ADMINISTRATOR, NATIONAL OCEAN SERVICE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION; ACCOMPANIED BY DR. ALAN THOMAS, DEPUTY ASSISTANT ADMINISTRATOR FOR OCEANIC AND ATMOSPHERIC RESEARCH; AND RUSS KOFFLER, ACTING DEPUTY ASSISTANT ADMINISTRATOR FOR ENVIRONMENTAL SATELLITE AND INFORMATION SERVICES

Mr. CAREY. Thank you, Mr. Chairman and members of the subcommittee.

Thank you for the opportunity to discuss the elements of the President's Fiscal Year 1989 budget request for Ocean and Coastal Programs administered by the National Oceanic and Atmospheric Administration.

Accompanying me today are Dr. Alan Thomas on my right, who is the Deputy Assistant Administrator for Oceanic and Atmospheric Research in NOAA. And on my left, Mr. Russ Koffler, who is the Acting Deputy Assistant Administrator for Environmental Satellite and Information Services.

Mr. Chairman, if it is agreeable to you and to the members of the committee, I would like to submit my prepared statement for the record and to summarize the major points for you and the members of the committee.

Mr. LOWRY. Yes. Thank you, Mr. Carey.

Mr. CAREY. Thank you.

NOAA's ocean and coastal program activities include, among other things, mapping and charting, ocean and coastal resource management, and ocean research and services. They range from the production and dissemination of technical products to support safe navigation to research and assessments of the effect of man's activities on the ocean, coastal and estuarine environment.

Turning to the specific aspects of the budget for our ocean and coastal programs for Fiscal Year 1989, there are several areas that I would like to touch on briefly. In Fiscal Year 1989 the budget calls for continuing with our program to map the U.S. Exclusive Economic Zone, and with our efforts to automate our charting process and produce digital charting products.

One specific proposal in the President's budget requests $1.66 million to fund the automation of our nautical charting production, which is a very important step that we need to take. Our goal is to provide technically accurate and up-to-date products to aid development and safe operations in the marine environment.

We will continue with our efforts to develop and issue final regulations to allow U.S. consortia to proceed with the necessary planning and related activities in advance of commercial scale deep seabed hard mineral recovery.

Under our National Estuarine Research Reserve System, we have established 16 reserves to date, and we expect to add two new

reserves shortly. We will also be revising the Site Evaluation List of potential new national marine sanctuaries, and expect to designate Flower Garden Banks as our ninth sanctuary. Our goal is to put in place a national network of sanctuaries to support conservation, research and public education on the value of the coast and the marine environment.

We will be strengthening our ocean observation program activities through improved ocean data collection and quality control efforts; through support for our tropical ocean global research program, which will be funded at $5.5 million; through development of improved numerical models of ocean and coastal processes; and through the deployment of the Next Generation Water Level Measurement System to replace our outmoded National Tidal Data Collection Network. These efforts will be the key to supporting the broader efforts aimed at understanding global climate change, which is a major feature of the President's Fiscal Year 1989 budget.

Similarly, we plan to strengthen our ocean and coastal assessment activities through better dissemination of marine environmental data, to other Federal agencies such as EPA, and to the States and local governments. These efforts are the key to addressing the National concerns, which you have noted, over coastal pollution, habitat loss, and mitigating the impact of natural disasters in coastal areas.

As in previous years, the Administration is proposing that direct Federal support of the Sea Grant Program and the Coastal Zone Management Program be ended, and that future support be turned over to the States, which have benefited, and continue to benefit, from these programs.

Mr. Chairman, it is easy to embrace many of the fine programs and activities that support our various National interests in the ocean and coastal areas. But we cannot support all of these activities, and at the same time deal with the overall budget problems that we face. In that light we have attempted to establish priorities in this budget, and to look for ways to get the most out of the resources that are available to us. I want to assure you and all the members of the subcommittee that NOAA is eager to work with you in setting our national priorities and in addressing the entire range of ocean and coastal issues of mutual concern.

My colleagues and I would be happy to address any questions that you might have.

[The prepared statement of Mr. Carey may be found at the end of the hearing.]

Mr. LOWRY. Thank you very much, Mr. Carey, for your brief opening statement. And I think you summarized the Administration's budget request very well.

I would like to request, for the record of the committee, the request by NOAA to the Department of Commerce and the request of the Commerce Department to OMB for the NOAA budget items. If we could request that be submitted to the record.

Mr. CAREY. Yes, sir. We will provide that.

Mr. LOWRY. Thank you very much.

I have found when I'm sitting in Budget hearings talking to people charged with administering very difficult budgets never

being overly comfortable in beating up on them, given what I think the essentially impossible situation that Administrators of overly tight budgets have. And I want you to know, I hope all of us in Congress understand that what it comes down to is you have a certain amount of dollars to work on those priorities. And, I wish we had priorities and that you had more dollars.

I believe that the 1989 request for the commercialization of LANDSAT is $34 million. I think many of us on the committee have shown, in past actions, what we consider very shortsighted, deep cuts in important programs.

Going along, if I understand it correctly, I believe Senator Rudman was successful in putting fencing language on the 1988 appropriation of fifty-seven and a half. Mr. Koffler, or correct me when you answer——

Mr. KOFFLER. Correct.

Mr. LOWRY. OK.

How does it make sense that given these decisions that are presented to us that we're spending $34 million new dollars on LANDSAT, looking at the situation on the fencing of the 1988 dollars, when really that is a subsidy to private firms who are going in to provide a service that frankly, I believe is probably provided anyway. And so, what is the reason for this $34 million, and why are we going ahead with this commercialization of LANDSAT?

Mr. CAREY. Mr. Chairman, I'll ask Mr. Koffler to respond.

Mr. KOFFLER. Well, one, we are following the mandate in the Land Remote Sensing Commercialization Act of 1984, which laid out the path that we are currently following. We also would note that the LANDSAT satellites, both in the Act and in actual fact, are providing information not only for land remote sensing, but also in the coastal areas. So there is some support from that program to the oceanographic community.

In following the Act, we have attempted to negotiate the best deal for the government with the commercial entity that was chosen, EOSAT Company. In addition, consistent with the constraining resources we are also looking at the future of land remote sensing in the United States and the role of the government in that regard, and have recently announced the studies that we contracted for to find additional ways to look at the future with a much reduced, if not an eliminated Federal subsidy for the hardware activity. So we are, we believe, following the mandates laid down and are looking forward to finding the future which will require significantly lower resources on the part of the Federal government in this area.

Mr. LOWRY. They certainly are increased resources at this point. I mean, it would be nice to have that $34 million for programs with significant reductions in many of the very important areas of NOAA's budget.

Mr. KOFFLER. I can't disagree with you, sir. The only thing is, we are following that mandate which called for the commercialization of the land remote sensing, and required continuing subsidy of that activity in order to continue the provision of land remote sensed data from the United States' owned assets.

Mr. LOWRY. Could we have, for the record, the negotiations with EOSAT, those are completed within NOAA?

Mr. KOFFLER. We have reached an agreement with EOSAT, yes. That document will be coming hopefully this week, if not early next, up to the Appropriations Committee for approval. And we would certainly be able to provide a copy to the committee.

Mr. LOWRY. Thank you. Thank you very much.

One of the significant reductions, Mr. Carey, in the marine services line item is a $6.8 million deduction deactivating six ships and reducing the operations days at sea for additional vessels. For enforcement purposes, and especially when we look at the violation problems we've been having in our 200-mile EEZ in the Bering Sea, this reduction is of much concern. Are you familiar with the doughnut hole fishing violations in the Bering Sea? Have you read about those, Mr. Carey?

Mr. CAREY. Not directly, sir. I have only very little information concerning that. I had hoped this morning to have with me our Deputy Assistant Administrator for Fisheries, but he was unable to be here. Because I did know that there was an interest in this area. I understand that there are some issues associated with that. I know that NOAA has been actively involved in that area. I know that there have been some enforcement overflights of the area and so forth.

Perhaps, if we could, Mr. Chairman, provide you and the members of the committee with the details concerning the status of that area.

Mr. LOWRY. Well, only recently the NOAA vessel, the Miller Freeman, has been dispatched to the area to do surveys on the catch. And why this is so important is that we really don't believe we have adequate data to really evaluate the amount of the catch coming out of that area. And frankly, we have video tapes of seven vessels clearly within the 200 miles fishing. The NOAA information as far as really following through for enforcement activities on violations, is crucial and yet in this budget proposal, we have a significant reduction in exactly those days at sea for the vessels to do that research for that information. I wonder given this problem we're facing how that makes sense?

Mr. CAREY. Mr. Chairman, in looking at the fleet support, the 15 ships that will be funded and are funded as part of the President's 1989 budget, what we have attempted to do in putting together that mix, that profile, of ships that would be available in 1989 is to focus in on those vessels' support for our fisheries, our research activities and our mapping and charting activities that are of the highest priority.

The type of issues that you're referring to that are high priority concerns, where that work exists, that would be accomplished within the days at sea that would be available within the 1989 budget. What we are trying to do is to prioritize that work. Obviously it's hard to judge today what are going to be the high priorities when you get out in that period of time. But there are days at sea in the fleet mix for 1989 that support high priority fisheries data gathering and enforcement activities.

Mr. LOWRY. Well, this budget proposal request reduces days at sea for the Miller Freeman, which has been sent up there to get exactly this information. So, it seems that it's sort of hard to follow that that will be giving us the adequate information, but we can

pursue this further and who particularly within NOAA works this specific area, should I be in communication with?

Mr. CAREY. We can work that directly with you, Mr. Chairman. We have two areas. It involves our National Marine Fisheries Service people who have the direct responsibility for the program. It also involves the operations of the fleet under Admiral Sig Petersen.

Mr. LOWRY. Who would be the person at NMFS?

Mr. CAREY. The person in NMFS would be Mr. Jim Douglas, who is the Deputy Assistant Administrator for Fisheries.

Mr. LOWRY. Right. Thank you very much, Mr. Carey.

Mr. Saxton.

Mr. SAXTON. Thank you, Mr. Chairman.

Again, Mr. Carey, welcome and I look forward to getting your reaction to several questions.

We note that NOAA has submitted legislation to reauthorize specifically Title II of the Marine Protection and Research and Sanctuaries Act, as well as the National Ocean Pollution Planning Act. Your budget, however, now that the request has come in, terminates at least one program which is funded under these laws the National Status and Trends Program, and severely reduces funding for vessels which support ocean pollution research and monitoring. Now, how does this square with your request for reauthorization for those programs?

Mr. CAREY. We do have the reauthorization proposals for both Title II and the National Ocean Pollution Planning Act, that are pending before the Congress right now. We will also be forwarding shortly a proposal for reauthorization of Title III.

With respect to the two areas that you mention, the Status and Trends Program and vessel support, within the Fiscal Year 1989 budget, we would be continuing with our Status and Trends efforts in terms of putting together data that we would be collecting in particular coastal areas. What is reduced is the level of field sampling that we would be doing. We would be trying to target that on the high priority areas where we know that there are problems so that we need to go back and revisit those field sites over and over. We have learned over the course of the program, the course of the Status and Trends program, since it was initiated in 1984, that the kind of sampling strategy that we started out with doesn't necessarily need to be followed on an annual cycle. So we're able to adjust the way in which we're doing the sampling. But we would be continuing in 1989 to produce and to disseminate and to analyze that coastal environmental data.

We would also have available within the fleet mix, going back to the Chairman's earlier question, days at sea that could be prioritized and used in collecting bottom samples in particular areas if that became a high priority.

Mr. SAXTON. Do you see these reductions in your budget proposal as seriously affecting—obviously if you're going to do away with one program, that program is seriously affected, and the testing and research facets—do you feel that there is a minimal effect by these reductions in budget, or can you square it easily in your mind by saying that we can carry out these functions in some other way?

Mr. CAREY. It's difficult to gauge. From a scientific research point of view, the researchers would say that higher sampling rates and more frequent sampling is the kind of thing that they are interested in in terms of improving the statistical accuracy of the analysis that comes out. On the other hand, that has to be weighed and balanced against what is an appropriate level of resources that one can devote to this type of activity. I think that probably only time will tell, and I think it's the kind of thing that we need to keep an eye on, and that we need to gauge the kind of sampling that we're doing and the types of data that we are getting back from these areas. Obviously, where we see problems in a particular area, that's going to flag things and we're going to need to reassess the type of sampling strategy that we need to follow.

Mr. SAXTON. Let me just conclude with an observation, and perhaps a question.

It just seems to me that we have a crying need for the types of important environmental programs which are funded through various parts of your proposed budget, not the least of which, of course, is the need to continually enlighten and educate the American public as to problems that we perceive as being important environmental problems. And obviously there are several educational tools administered through your programs. Not the least of those, of course, in terms of importance to me and I think to other Americans, is the Sea Grant College Program. And here again we see in the budget significant reductions and significant harm done, in my view, to a program, or potential harm, which is and has been of tremendous value in helping to understand environmental problems that have to do with the ocean, the bays, the estuaries, and the entire realm of things that we try to hard to understand and then, of course, deal with. Do you feel that your reductions in the Sea Grant Program would be meaningful in terms of reducing the effectiveness of that entire program, which I understand this year is involved either in a direct way or in an indirect way with 270 institutions of higher education?

Mr. CAREY. Of course, as you know, sir, this has been a continuing debate over the level and type of Federal support for the program. There has been now close to $500 million that has been invested in the network that has been established out there—that is firmly established in the universities and institutions that are in the Sea Grant Program. Those same institutions and universities are also supported through their State legislatures with funding and also from other sources, and also from other Federal agencies.

At this point, the Administration's position is that the programs should be able to stand on their own. Certainly from our point of view, we would hope that the programs would continue to be strong and viable out there. And that they would be a resource that not only NOAA but other Federal agencies could turn to to have critical environmental research conducted.

But I might ask Dr. Thomas, in whose area that program is, to comment further on it.

Mr. THOMAS. Well, I think Mr. Carey has summarized the position very well. We certainly are proud of the work that the Sea Grant Program has done. There's a lot of good work throughout the program, and it has, as you mentioned, achieved the bringing

to bear the expertise in a large number of our universities as well as with State, local and Federal entities. So it has, and is, providing a very useful service, I believe.

Mr. SAXTON. Well, obviously, I'm going to have some differences of opinion with the Administration in terms of the importance of this funding, and whether or not it ought to be a National program, or whether it ought to be carried out by the States. And obviously I think you probably know that we disagree, or at least I do in terms of that position.

I think I just got a unanimous vote of confidence here. So thank you very much for responding.

Mr. LOWRY. Thank you again, Mr. Saxton.

The gentlelady from Hawaii, Mrs. Saiki.

Mrs. SAIKI. If I may follow up along the same vein, I do join Mr. Saxton in his concern for the survival and not only the maintenance, but the development of the Sea Grant Program, looking into the future as I had said earlier.

But what I would like to know is what is in the budget at this time for Sea Grant? What's left there? If you are planning to terminate this program, is there a phase out period? Have people at the universities and colleges been notified that this is your intent, so that there will be very little confusion as to the direction you plan to take? And I think as a Congressional committee we would then be able to anticipate the direction and the numbers, the dollars, and the people involved here, and the programs.

Mr. CAREY. Dr. Thomas?

Mr. THOMAS. I guess in answer to your question—this has been a proposal by the Administration for now close to six years, I guess five to six years, to phase out the program. So there would be——

Mr. SAIKI. Well, you'll have to forgive me. I'm a new kid on the block. [Laughter.]

Mr. THOMAS. Right. There is not a phase down proposal. It is a phase out proposal. This year, in 1988, there are aftereffects of the overall government-wide budget reduction. There'll be something close to $37 million, a little under $37 million, available to the program for the ongoing activities. This is to be compared with $39 million in 1987 that was available.

I guess in terms of the phase out it's somewhat—this proposal, because it has been on the table, has had a number of actions that have taken place. We have a new reauthorization for the Sea Grant Program that proposes some changes in the nature of the program. We are working to try to provide the planning basis for the new reauthorization, which has several provisions, the major one being the establishment of a strategic research program. And we have been working with the people in the network, as well as other scientists within the Federal government and in our own organization to try to implement the provisions of that authorization.

Mrs. SAIKI. Well, Mr. Chairman, I'm not going to indulge myself in learning about a little bit more what you all have been up to all these years. And so I'll spare the committee that. If I may, however, work with majority and minority attorneys, so that I can plan the next step——

Mr. LOWRY. Yes.

Mrs. SAIKI [continuing]. And join with all of you, I certainly would appreciate it.

Mr. LOWRY. Yes.

Well, I thank the gentlewoman. The Congresswoman from Hawaii was immensely helpful earlier this year when we were going through the Sea Grant reauthorization. You brought very positive help in that effort and we passed a very good Sea Grant reauthorization bill. In a way this particular subject can sort of be like, you know, the old jokes about the convicts that just hold up Number 14, or something. You know, we've been through this one often on this committee anyway.

The gentleman from New Jersey, Mr. Hughes.

Mr. HUGHES. Thank you, Mr. Chairman, and I too want to welcome you, Mr. Carey, and your colleagues.

I'm not going to belabor the point either, because we've been saying the same thing now I guess for eight years, not six years, about some of these deficiencies. I have the same concerns as my colleague from New Jersey with regard to the cuts that are proposed in the National Status and Trends Program. I just have a couple of specific questions.

How do we find out if in fact our cuts are going to adversely impact our research and monitoring programs? Is it when we develop a serious problem? Isn't that kind of late?

Mr. CAREY. There are two parts to answer that question. One is the actual monitoring program that goes on, and the other is the research work that is also going on simultaneously. With respect to the monitoring, it's simply a question of the sampling and how frequently we do that. We still are engaged in an active research program in these areas.

Mr. HUGHES. Are we doing too much monitoring now in the field?

Mr. CAREY. In some sites it's questionable how frequently we do need to go back given the type of information that we have collected.

Mr. HUGHES. Well, you and I both know that we'd all agree, I would think, that if we were doing too much monitoring in sites, that we'd cut that back. But that's not the thrust of these cuts. Let's not kid one another. I'm sure we're not. We're cutting back arbitrarily, and hope that we can get by with the monitoring that we're going to do. Isn't that what we're doing?

Mr. CAREY. We already have in place a wealth of data that we have collected on the coastal areas of the United States. We have been working with this data. The researchers have been working with the data. One of the problems that we're looking at right now that we see as a very critical problem is disseminating the information that we already have in hand. We are looking for better ways to get the wealth of information out into the hands of States and local coastal communities so that they can begin to get access to some of the knowledge and information that we already have collected from our observation and monitoring activities.

Mr. HUGHES. That's always been a problem. Are we doing anything to try to improve our extension service in that regard? I mean if we have a shortfall in getting the knowledge out, that's another problem. But surely we want to try to develop the best

knowledge and information we can. We're learning more every day, are we not, about what impacts for instance dumping has on the marine environment?

Mr. CAREY. I think that the data and information that we are collecting right now, through the Status and Trends program, through the field samples, certainly in the views of EPA and others, is very high quality data on some of the best information——

Mr. HUGHES. And shouldn't we maintain that quality?

Mr. CAREY. And we are maintaining that and collecting that in the critical areas where we are concerned about monitoring.

Mr. HUGHES. But we're also proposing the cut in the Generic Ocean Disposal Assessment and Research activities. So how can we cut in our Generic Ocean Disposal Assessment and Research activities and not see some adverse impacts as a result of that?

Mr. CAREY. I think, sir, that it's a question simply of level of effort and again, as I mentioned in my opening statement, that it is very difficult not to embrace all of these activities at the levels that we would like to see, but it is a question of trying to balance those priorities against the available resources. I can assure you we are trying within the resources that we have, to collect, provide and disseminate the highest quality environmental data that we can.

Mr. HUGHES. Well, I hear you. And the reason why we're testing that is because I, for one and I'm not alone, believe that that's being penny wise and pound foolish. We're doing no monitoring at all, are we, at the 106-mile dump site?

Mr. CAREY. That's correct, sir.

Mr. HUGHES. Is that prudent?

Mr. CAREY. We have collected quite a bit of baseline data at that site. I think we understand the physical processes that are at work there very well. And I guess there is a question of what additional monitoring at the site would contribute to the knowledge that we already have from the intensive efforts that were put into that area.

Mr. HUGHES. You believe that we know as much as we need to know about what impacts dumping of sewage sludge at the 106-mile site is going to have on marine organisms, cumulatively?

I was under the impression that we did not know, for instance, that long after we'd dumped sewage sludge, it remained on the surface of the ocean. Recently the University of Maryland conducted some studies which demonstrated that bacteria, in particular, remain although inactive, remain at a risk to species for upwards of a year after the material is dumped. That it actually effects some changes in the organic substances in the ocean that does not break down bacteria. Were we aware of that a year ago?

Mr. THOMAS. I can't answer that. I'm not that familiar with the literature on that. But clearly we're learning more every year through a multitude of different efforts. And I guess from the point of view of NOAA and the Administration, there are a number of programs that are addressing the areas of concern. For example, we do have fisheries laboratories along the East Coast that are working on some of the environmental problems as well as fisheries. There is effort going on in the effects on say fish due to various pathogens, as well as other toxic substances.

I think from the point of view of the Administration, they view that relative to all of the things that are being funded that some of the programs in NOAA are——

Mr. HUGHES. I know what they believe. I'm trying to find out what you believe.

Mr. THOMAS. Well, in the area of the science here, clearly we don't know everything we need to know.

Mr. HUGHES. That's precisely the point.

Mr. THOMAS. But there are some areas, and I think Mr. Carey referred to it. We do know a lot about the circulation on the dump site. We had a program in the New York Bight that looked at the close-in dump site for a number of years. But also the Ocean Dumping Program, which was part of our overall effort, looked at the 106 and so——

Mr. HUGHES. Dr. Thomas, we have never dumped the quantity of material that we're now dumping at the 106-mile site. It was just the end of this last calendar year that all the dumpers at the 12-mile site moved their dumping activities to the 106-mile site. And we have a humongous amount of waste now being dumped at the 106-mile site. How can you sit there and tell us that we know as much as we need to know? We don't have any idea what impacts it's going to have, do we?

Mr. THOMAS. I don't think I—if I left you the impression that we know as much as we need to know——

Mr. HUGHES. And how in the world can we expect to find out if we don't continue our research activities and our monitoring?

Mr. THOMAS. A lot of the, at least the monitoring activities, are more a function of the Environmental Protection Agency in many cases, such as ocean dumping.

Mr. HUGHES. Oh, now I'm not going to let you get away with that.

Mr. THOMAS. The——

Mr. HUGHES. You have a rightful role to play. And you have in years past, you've developed the expertise, and as a scientist you're not suggesting to me that you don't have a legitimate interest, making sure that we don't make a mess at the 106-mile site as we have with the 12-mile Bight. It's the most—we have the notoriety of having the most distressed body of water probably in the entire world off of our coast.

Mr. THOMAS. That's true.

Mr. HUGHES. Shouldn't we make sure we don't do the same thing at the 106-mile site and destroy our commercial fisheries in the process?

And if the answer is yes, we should, which I trust you're going to suggest, then how in the world can we find out about that unless we monitor and continue our research program?

Mr. THOMAS. I guess right now I, you know, can't suggest any alternative given the fact that we have a budget that reflects certain priorities, and what you're proposing is not one of the priorities in the budget.

Mr. CAREY. Mr. Hughes, if I might add, while this is not a direct answer to your question regarding the 106 site, Dr. Evans, as the incoming Administrator of NOAA, has a very strong interest in the coastal ocean environment and area. Right now within the agency

there is a very strong reassessment going on of the programs that we have in the coastal and ocean area, how these programs fit together, what are the National environmental concerns out there, whether they are pollution, habitat loss, hazard mitigation, whatever, and looking at ways in which we can think through again the NOAA role and the NOAA program to attack those concerns, that I know that you and other members of this committee have. And while I don't have specifics for you, I just want to mention to you that there is this active thinking process going on, and relooking at the programs in the agency that deal with these very issues and problems that you're raising.

Mr. HUGHES. Mr. Chairman, before I yield back the balance of my time, I just want to say that's the only encouraging thing I've heard Mr. Carey say today.

Mr. SAXTON. Will the gentleman yield for just one quick one?

Mr. HUGHES. I'd be happy to yield.

Mr. SAXTON. I'd just like to point out that in following the line of conversation between yourselves and Mr. Hughes it seemed to me that you came to the conclusion that we probably don't know all we need to know about dumping at the 106-mile site, and it's effect on the ocean. At least it would be very helpful to Congressman Hughes and myself, and Mrs. Schneider, if you would follow up with one additional comment and say that since we don't know what the effects are, that perhaps the best thing you could do, Congress, is to get sludge out of the ocean altogether. If we're not going to study it and find out whether or not it's harmful, then at least take the position that we're here to say, you ought to stop doing this until we do find out.

Mr. HUGHES. Well, Mr. Chairman, I have a lot of concerns, but my time is up—about Sea Grant, what impact that's going to have, because I know that we're going to see a lot of programs drop through the cracks if we dissolve this Federal partnership. We kid ourselves if we believe otherwise.

Mr. LOWRY. Well, that is why the President proposes and the Congress disposes. [Laughter.]

We have some work to do on this budget.

The gentlewoman from Rhode Island, Miss Schneider.

Ms. SCHNEIDER. Based on your comment, Mr. Chairman, I would think that the gentlemen seated before us would be getting pretty frustrated about coming before us year after year, and singing the same song, and year after year Congress saying forget it, guys, this does not reflect the needs of the Nation.

You know, I'm delighted to welcome you, but quite frankly isn't this a little absurd for us to spend an hour going round and round on issues that we know in fact are not getting the financial attention that they should? I think you know by the comments raised this morning, whether it be on Sea Grant, ocean research or on the impacts of dumping, that this committee doesn't intend to go along with your proposals. And it would be nice now and again to come back with a fallback position where you could take your expertise, both scientific and economic, and make reasonable recommendations to us.

One of the things that is most disconcerting to me is that having served on this committee for eight years now, I have heard from

universities and industries all across the Country, even grass roots organizations, about their growing frustration of the lack of attention that the Federal government is paying to ocean policy. Quite clearly the reductions in this budget are directly targeting ocean policy—75 percent of the budget is earmarked for atmospheric and satellite programs. My question is, let's call it straight, gentlemen, is this money not being used for defense purposes?

Mr. CAREY. I don't know that I'm in a position to answer your question. Certainly with respect to the NOAA budget, and to the deliberations regarding the NOAA budget, the questions come down to ones of supporting the priorities of the statutory programs that we have to administer and carry out.

Ms. SCHNEIDER. Well, the statutory programs include Sea Grant and other ocean related programs. So in fact you are not carrying out the statutory requirements, but you're carrying out what appear to be the administration's priorities, such as the doubling of the defense budget. I'm just wondering to what degree is this data that you are collecting in the name of research being transferred over to SDI or other such projects?

Mr. THOMAS. If I may comment, I would say that very little of what we do is not directed to NOAA's mission. Our weather atmospheric programs are basically geared to modernization, which is a major proposal from the Administration that the Congress has supported. We do run a space environmental service for the Country which has both civilian and military users. And in the climate area, which is the proposal where the Administration has provided support for very important environmental problems, where we are sorting out our mission. We do get support in the Administration for global issues, as opposed to coastal issues. It's clearly a civilian program, and it's geared to that.

Ms. SCHNEIDER. What percentage of your research is classified?

Mr. THOMAS. None of our research is classified.

Ms. SCHNEIDER. None of it at all?

Mr. THOMAS. No. We don't do any classified research.

Ms. SCHNEIDER. Well, some of the work being done in the oceans field is being classified.

Mr. THOMAS. That could be—but none of the research that we do. Maybe the EEZ data, I guess you're referring to.

Ms. SCHNEIDER. OK.

Mr. THOMAS. But none of the research that we do, for example on hydrothermal venting systems. That's all open literature worked with the academic community, and with other Federal agencies such as Geological Survey. Even when we do cooperate with say Navy or Air Force funded projects, it's all unclassified.

I'll just make one other comment. The one area where we do have a strong environmental quality program is in the Great Lakes. And our support there is largely because of the United States/Canadian international regime. And we have gone from having that program phased out early, about 6 years ago, to now receiving support by the Administration for focusing on that water quality agreement.

Ms. SCHNEIDER. Can you describe to us the reason for that turnaround?

Mr. THOMAS. Basically it's an international issue.

Ms. SCHNEIDER. Okay.

Mr. THOMAS. Even though it may look like a limited body of water, the U.S. has to uphold its end of the bargain, and we've been working—on the research part. EPA is the Administrator from the U.S. side.

Ms. SCHNEIDER. But I understand you're cutting that program by a third.

Mr. THOMAS. That is true. However, what's left of the money is geared particularly towards the agreement. There are other activities going on in the Great Lakes, such as looking at the water level.

Ms. SCHNEIDER. So it appears that the real reason the Administration has had a turnaround is because the Canadians said very straightforwardly, that they were sick and tired of us not taking care of our own environmental pollution, and that fisheries treaties, trade agreements, and other sorts of agreements were going to come to a standstill unless we got our act together and disposed of our waste appropriately. Environment, environmental protection, and monitoring is an international and diplomatic issue.

Now let me shift to another part of the world for a moment. What about Africa, where we are seeing a continuing drought and where NOAA is doing global monitoring of the impacts? I wonder if you could elaborate as to what mechanism NOAA has used to transfer that information to the African Nations so that they might more appropriately utilize it?

Mr. KOFFLER. We are doing work with AID in that regard. We are using the space-based assets of NOAA in terms of monitoring the African drought situation there. We are working with AID in transferring that technology to the extent we can to the African Continent. We have developed some PC-based analysis capability in terms of tech transfer. We've conducted some courses, long-term and short-term with the people over there.

Ms. SCHNEIDER. You mean the training of foreign nationals?

Mr. KOFFLER. Yes.

Ms. SCHNEIDER. And how much money is being spent to do that?

Mr. KOFFLER. I don't know right off the top of my head the answer to that. We would certainly be glad to provide that for the record.

[The materials follows:]

COST OF TRAINING FOREIGN NATIONALS

NOAA spent approximately $300,000 in fiscal year 1987 on training foreign nationals from Africa. The training was done at the University of Missouri at Columbia by 5 NOAA employees. The $300,000 accounts for the salaries of those five individuals.

In additional to this, NOAA provided some training in Africa which was funded by the Agency for International Development at approximately $30,000.

Ms. SCHNEIDER. I would appreciate it if you would call my office rather than the committee, and provide me with that as soon as you possibly could.

Mr. KOFFLER. No problem.

Ms. SCHNEIDER. Well, I shifted into the atmospheric focus that you have, but quite frankly I did not choose to reiterate what my colleagues have already said. I think that each of them have made very good arguments, whether it be for Sea Grant or for ocean

dumping, or whatever. But it seems to me that once again, as my Chairman has so appropriately stated, the President proposes and the Congress disposes. And I think you already know what to anticipate from this committee.

We happen to feel very strongly that the oceans provide an enormous resource of all types for us. And I, for one, do not believe that either the policy planning for the oceans or the monitoring and research is adequate, not only in terms of dollars but in terms of information transfer and the scope of that information.

So, Mr. Chairman, I'm not going to proceed. Thank you very much.

Mr. LOWRY. Well, I thank the gentlelady for her continuing diligence on this very important subject.

Many of the questions the Members of the committee have been asking have been relating to the proposed $5.5 million reduction in the estuarine, coastal assessment item. A reduction of about 20 positions, I believe reading my notes here. And in your statement you referred to that reduction as a decrease in non-essential activities. And then in the description of what those activities are, the measurements of the concentration of PCBs and other toxic compounds, compounds and liveables, bottom fish, mussels, clams, and oysters. I just hear a tremendous concern by the members of the committee as to the feeling that we have adequate information in that, when we think of PCBs and what we eat, and in the industries related to them.

In addition to the questions asked, also there is a push going on now for additional dredge spoil disposal in our ocean waters. And it seems like there's an increase in those proposed activities of additional dredge spoil disposal, and then use the contained aquatic disposal, methods mostly unproven and untried, to handle this in-ocean and estuary disposal.

How does it make sense to be cutting 20 positions and $5.5 million when the trends towards this are being increased, and we need to monitor how those techniques are working as far as protecting our fisheries and our populace against these toxics?

Mr. CAREY. Well, Mr. Chairman, I too have sat here and noted the committee's concerns as they have been expressed by a number of the members on particular items and on this general topic. In the ocean assessment program for 1989 we have $5.8 million in the President's budget. That is a direct appropriation and that is requested. We also have monies that come into that program from EPA that support direct work that we do for them in assisting them under the provisions of the Clean Water Act. Again, we are working within that level of available resources. We are also, as I pointed out earlier, actively engaged in looking at what type of a program that we need to put together in working with the people in the National Marine Fisheries Service in our research area to try to better concentrate NOAA's efforts and activities to attack these problems.

And I think that the input of this committee and the concerns that are being expressed here today are very important to us, and I would repeat again that I think we do want to work very actively with you and members of the committee to see how we can put together a proper program that will focus on these concerns.

Mr. LOWRY. Thank you very much, Mr. Carey, for that answer.

Any further questions by members of the committee?

[No response.]

Mr. LOWRY. I'd like to thank you all three, gentlemen, for your time.

Mr. Carey.

Mr. CAREY. Mr. Chairman, if I may, I note that following us you have a Fleet Panel with Dr. Gaither from the National Academy of Sciences, and Captain Kraine from Advanced Technology. And going back to your earlier questions concerning the NOAA Fleet, I just wanted to take a moment and indicate to you that we have from both the Academy and from Advanced Technology two very well done, very thorough reports that we have received, and that we have been briefed on. I think that those are watershed reports, if you will, in terms of looking at the future of NOAA's Fleet, and providing us with some very strong, solid advice in terms of where we should be moving in the future.

And I want to thank them for their efforts. We are still learning a lot, because we have just really started to delve deeply into the recommendations contained in both of those reports. But they are timely, and I think that they're going to be very valuable to us as we're putting together our proposals for the ensuing year with respect to dealing with some of the vessel problems that you raised earlier.

Mr. LOWRY. Well, thank you very much, and thank you for your testimony and spending time with us, also Dr. Thomas and Mr. Koffler. Thank you.

Mr. CAREY. Thank you, Mr. Chairman.

And, Mr. Chairman, I understand a belated happy birthday is in order.

Mr. LOWRY. You really know how to hurt a guy. [Laughter.]

Thank you.

Mr. CAREY. Thank you.

Mr. LOWRY. Our next panel is Mr. William Gaither, Chairman of the Committee on Alternative Strategies for Obtaining Ship Services, the Marine Board, National Academy of Sciences, and Captain Gilbert Kraine, U.S. Coast Guard, retired, Manager, Special Projects of Advanced Technology Inc.

Thank you very much, gentlemen, for joining us. If we would just proceed ahead with Mr. Gaither, if you would give us your testimony, please.

Your prepared statement will be inserted immediately following your oral presentation.

STATEMENT OF WILLIAM S. GAITHER, CHAIRMAN, COMMITTEE ON ALTERNATIVE STRATEGIES FOR OBTAINING SHIP SERVICES, MARINE BOARD, NATIONAL ACADEMY OF SCIENCES

Mr. GAITHER. Thank you, Chairman Lowry and committee members, my name is William Gaither. I appear before you today as chairman of a committee convened by the National Research Council under its Marine Board which has just completed a study for the National Oceanic and Atmospheric Administration concerning strategies for obtaining ship services. The report will be available

at the beginning of April, and as Mr. Carey noted NOAA has been briefed and has received a copy of the findings.

Specifically, the National Research Council was requested to, and I quote, "assess the issues associated with chartering research vessel support from the private sector versus operating NOAA ships." The study concluded that NOAA might use chartering to its benefit for certain program areas within its mission responsibilities in hydrography, fisheries, and oceanographic research. However, the committee concluded that chartering should be pursued on an experimental basis only after NOAA carefully examines its fleet needs and establishes a comprehensive program to meet those needs.

Mr. Chairman, I have submitted the Ship Services Committee's findings and recommendations with my written testimony. The NRC study stressed that NOAA must consider its decision about chartering in the broader context of the Nation's oceanographic research needs and NOAA's own congressionally mandated mission responsibilities. NOAA's definition of its vessel needs based upon its mission responsibilities will provide the foundation of NOAA to develop a comprehensive plan to include both fleet modernization and use of chartering for ship services.

The Ship Services Committee's assessment of chartering addresses vessel obsolescence and replacement in the context of the condition and future of the existing fleet. The study recommends that fleet replacement planning be conducted now in order for vessels to be completed by the 1990's when obsolescence of existing vessels will be an inevitable problem for NOAA. The committee proposed that NOAA accomplish fleet replacement by either seeking funds for new vessel construction or by undertaking a program of vessel lease-purchase.

In its examination of alternatives for chartering, the committee found that long-term charters held many advantages over short-term charters. If NOAA's comprehensive plan determines chartering to be an optimal strategy, NOAA should establish policy and procedures for multi-year chartering arrangements.

In accordance with its plan, NOAA should embark on an experimental program of chartering in one or more program areas. The committee recommends that one of these areas be bathymetric surveying of the Exclusive Economic Zone, the EEZ. However, NOAA should recognize that certain programs such as hydrographic surveying and selected fisheries projects would not be well served by charter vessel services. Since NOAA has responsibility to support its nautical charts in litigation, the committee recommends that hydrographic surveys in support of these charts be conducted on NOAA vessels. The committee also recognizes that the favorable experience with fisheries charters in the Pacific Northwest does not establish chartering as a viable alternative for all regions of the country nor for all fisheries programs. The committee recommends against the use of chartering for fisheries surveys that support long-term time-series data sets and fisheries research projects until the issues of data-set continuity can be resolved through suitable calibration of new vessels.

The committee advised that NOAA will need to examine economic issues, specifically chartering costs, on a case-by-case basis by is-

suing a complete and comprehensive request for proposal. Furthermore, contract implementation should be carried out with the active involvement of technically capable personnel, and central procurement should be avoided for these technically complex contracts.

Based on the information contained in the NRC report, it is my opinion that these actions should be implemented before NOAA proceeds to decrease the capital assets of its own fleet. Furthermore, NOAA should also be prepared to provide supplementary funding for the transition period when charter vessels are being built and put into service.

The Committee on Alternative Strategies for Obtaining Ship Services comprised nationally recognized experts from the private sector in fisheries and oil exploration, from the academic sector in oceanographic research and ship operations, and from the Federal government in the Navy, NOAA, and the OMB. NOAA staff from the Office of Marine Operations provided excellent technical support to the committee. In addition, seven private sector ship chartering and operating organizations provided cost data to the committee for use in this report.

Mr. Chairman, this concludes my testimony, and I'll be pleased to answer questions that are within the scope of this study.

[The attachment to the statement of Mr. Gaither follows:]

FINDINGS AND RECOMMENDATIONS

The findings and recommendations of the committee are as follows:

1. Finding: The NOAA Fleet represents a significant and unique part of the total Federal Oceanographic Fleet. As such, decisions regarding its future should be made in the context of total national needs.

RECOMMENDATION: Policy decisions concerning the future of the NOAA Fleet should ensure that the capability to support national interest at sea is strengthened, not diminished.

2. Finding: Ocean research and data acquisition will most probably increase, as a consequence of the 1983 declaration of an Exclusive Economic Zone (EEZ) extending 200 miles offshore, the increased use of marine resources, the national commitment to global ocean investigation, and the level of future NOAA activities in bathymetry, fisheries, and oceanography. The NOAA Fleet will play an important role in accomplishing this task.

RECOMMENDATION: NOAA should take action to ensure that it will be able to provide the nation with the required capability to perform marine resource assessment and oceanographic research in the future.

3. Finding: Industry and other governmental agencies have used chartering to obtain sophisticated and cost-effective oceanographic services. In selected program areas, NOAA potentially could use chartering to comparable advantage to help to meet its ship needs and to bring new and more sophisticated vessels into national service. Other program areas are not conducive to chartering.

RECOMMENDATION: In selected program areas, NOAA should establish and implement policy that encourages the acquisition of short- and long-term ship services through a variety of chartering mechanisms.

RECOMMENDATION: NOAA should commission the conduct of a study to define the characteristics of an idealized fleet to meet present

and projected ship services needs. The results of this study should serve as the basis for the modernization of the NOAA Fleet and the implementation of a program for chartering ship services.

RECOMMENDATION: NOAA should prepare a carefully designed request for proposal (RFP) for chartering ships to service for one or more mission areas.

It is the committee's belief that bathymetric surveying of the EEZ should be offered to interested contractors as promptly as a carefully drawn RFP can be prepared and multiyear chartering authorization can be obtained. Only through an RFP will definitive information be developed on chartering costs and vessel availability. Once the government has definitive information on contractor costs and services and its own costs and requirements, it can make an informed decision about contracting for vessel services.

4. Finding: The committee has attempted to obtain data to compare the cost of services of contractors to NOAA-performed oceanographic services. The data from respondents were inconclusive due primarily to lack of specificity in standards and tolerances provided for each mission area. The committee believes that only through the issuance of a carefully prepared RFP, which would include incentives for high performance by contractors and clear intent to make a contract award, will competitive and reliable cost data be obtained.

RECOMMENDATION: NOAA should issue a full RFP for EEZ bathymetric surveying and convey a serious intent to award a long-term contract in order to obtain accurate cost data. This should be undertaken by NOAA as an experimental program(s) with a clear recognition that funds must be set aside to implement this recommendation.

5. Finding: NOAA is justifiably apprehensive about ensuring contractor responsiveness and the quality of products produced.

RECOMMENDATION: NOAA should accept the direct responsibility for defining its expectations in standards and tolerances that become part of any RFP and contract documents that may result from a successful solicitation. Other federal agency successes and failures should be fully understood.

6. Finding: For many chartering alternatives, long-term charters are more cost-effective and attractive than short-term charters. NOAA's past chartering experience has not included long-term contracting. It is not clear to the committee that NOAA is able to enter into long-term multiyear contracts for ship charters and scientific services. Other agencies appear to have such authorization.

RECOMMENDATION: NOAA should establish agency policy and procedures to enter into long-term multiyear contracts for ship charters and related scientific services.

7. Finding: The legal implications pertaining to nautical charts were not examined in detail by this committee. However, the committee understands that NOAA has the responsibility to support its nautical charts in litigation.

RECOMMENDATION: Hydrographic survey ship operations for the purpose of preparing nautical charts should not be chartered out until the implications are fully understood.

8. Finding: Problems appear to occur most frequently where technical procurement documents are prepared in a central procurement office by individuals not intimately familiar with the tasks to be accomplished or services to be rendered at sea.

RECOMMENDATION: NOAA should establish a technical capability within its procurement organization that will be fully cognizant of and sympathetic with the needs of scientific personnel.

Mr. LOWRY. Thank you very much, Mr. Gaither.
Captain Kraine.

STATEMENT OF CAPT. GILBERT L. KRAINE, U.S. COAST GUARD, RETIRED, MANAGER, SPECIAL PROJECTS, ADVANCED TECHNOLOGY INC.

Captain KRAINE. Good morning, Chairman Lowry, committee members. My name is Gilbert L. Kraine. I have submitted a written statement and with your permission, Mr. Chairman, I will summarize the points verbally.

Mr. LOWRY. Thank you, Captain.

Captain KRAINE. Thank you.

On May 20, 1987, Advanced Technology Incorporated was awarded a contract by the National Ocean Service of NOAA to assess the condition of the 23 ships of the NOAA Fleet and to develop an Upgrade Plan. I was the program manager for the work. I headed up a team of engineers with backgrounds in ship design, operation, maintenance and construction, and repair. We visited the National Ocean Service headquarters, the Atlantic and Pacific Marine Centers, and the ships of the NOAA Fleet. We interviewed the personnel involved in vessel maintenance and operations, and the key shipboard personnel including the commanding officers, the executive officers, the chief marine engineers and their assistants, the boatswains, the stewards, the electronic technicians, and scientific personnel. We inspected the records for each ship and extracted pertinent data as to past problems and casualties, repairs, actual costs that have been incurred, and planned future maintenance activities.

We visited every ship with the exception of the Murre II and physically inspected the ships. We entered every accessible space and inspected all major systems and items of machinery and equipment. We developed a detailed assessment of the condition of each ship. The assessment was then analyzed to identify the work which would be required to extend the life of the ship, improve the ability of the ship to perform its mission, or to increase the ship's productivity and efficiency. A proposed repair or replacement plan was then developed and the cost of carrying out the work was estimated. Equipment repair was the preferred approach except when replacement was required by the advanced deterioration of the equipment, the mission criticality of the item, the availability of replacement parts or when overhaul costs exceeded replacement costs. The various upgrade projects for the ships were then scheduled for accomplishment during the period from Fiscal Year 1990 to 1999. There are some caveats on the use of the results of the study.

First, we were not tasked to review the scientific instrumentation aboard the ships. Second, we were directed to assume that the current operational requirements would continue in the future. And finally, all dollar estimates were made in 1987 dollars. We evaluated the NOAA Fleet as being in better condition than commercial vessels of the same age, especially considering the demanding operational schedules and the limited maintenance funding. There are many hardworking and dedicated people in NOAA, both

ashore and aboard the ships who have performed admirably in the maintenance and repair of the ships over many years.

However, there are some problem areas and some problem ships. The basic problem facing the NOAA Fleet is block obsolescence. Twenty of the 23 ships were built in the 1960's and only one since then. Ships have a normal life expectancy of 20 to 25 years. By that age, the obsolescence of some of the installed equipment and machinery, deterioration of the systems and structures, and technological advances generally will require major maintenance efforts to continue the satisfactory operation of the ship. The bulk of the NOAA Fleet is at that stage now. NOAA's diligent maintenance efforts and programs have helped to keep the vessels in a condition which makes the majority of them excellent candidates for service life extension programs. A service life extension program can provide almost the equivalent of a new ship at a much lower cost and maintain NOAA's capability to support scientific research, monitoring and survey work. It is therefore our recommendation that such a program be undertaken immediately. Significant delays in embarking on an upgrade program may result in replacement being the only option left open to NOAA.

In assessing the NOAA Fleet, we did identify four ships which we recommend for replacement rather than a full, service life upgrade. These ships are the Albatross IV, the Townsend Cromwell, the John N. Cobb, and the Surveyor. A limited upgrade project was developed for each of these four ships to correct various problems and keep them operational until they are replaced. In addition, a design and construction plan was included in our Upgrade Plan for the replacements for these four ships.

The schedule of the upgrade projects is shown in the chart that was provided. I have a large version here, which will be available for inspection afterwards. The projects were divided between major and minor efforts. One major upgrade is scheduled each year, alternating between Marine Centers, beginning with the Oceanographer on the West Coast. One or more minor upgrades are also scheduled each year. The total cost for the program is estimated at $168 million over a ten-year period with $83 million for upgrades and $85 million for replacements. The Upgrade Plan is based upon our best engineering judgment. Changes in the plan are of course very likely when NOAA incorporates other considerations.

I'll be happy to answer any questions. Thank you.

[The prepared statement of Captain Kraine may be found at the end of the hearing.]

Mr. LOWRY. Thank you, Captain Kraine.

None of this is, of course, included in this budget request before us?

Captain KRAINE. No, I do not believe it is, sir.

Mr. LOWRY. If we do not begin the upgrading until 1990, what's the effect of that going to be on the Fleet?

Captain KRAINE. We plan that the upgrade would begin with 1990, recognizing that the budget cycle would make that the first year that the funding would be available if it were followed.

Mr. LOWRY. OK.

And what is the cost of your proposal then for 1990?

Captain KRAINE. In Fiscal Year 1990 we show $12,300,000.

Mr. LOWRY. And over the life of the program?

Captain KRAINE. It would be $168 million.

Mr. LOWRY. And that's over how long a period of time?

Captain KRAINE. Ten years.

Mr. LOWRY. Over ten years.

Captain KRAINE. Yes, sir.

Mr. LOWRY. And what condition would our Fleet be in at the end of that program?

Captain KRAINE. Four ships would have been replaced, the four that I mentioned, and the remaining ships would all have undergone an extensive upgrade where all the major systems were either repaired or replaced.

Mr. LOWRY. Now, Captain, did you look at the condition and the state-of-the-art of the instruments?

Captain KRAINE. No, sir, not the scientific instruments. We did look at things such as communication equipment and navigation equipment, the ship operational equipment. But in the scientific laboratory spaces we only inspected the fittings, not the scientific instrumentation.

Mr. LOWRY. I probably should have asked Mr. Carey this, but do we have people looking at the state-of-the-art of the equipment and what the cost for upgrading them would be?

Captain KRAINE. I have no information about that, Mr. Chairman.

Mr. LOWRY. Well, I should have inquired that of NOAA.

Mr. Gaither, your study has provided the methodology for comparing the chartering with the use of NOAA ships, and that study has been provided to NOAA now?

Mr. GAITHER. Yes. NOAA has been briefed on the findings, and the study is still in the very final stages of editing in the Academy, and it will be available in its total form about the first of April.

Mr. LOWRY. OK.

Not to go on for a long time, because we will be looking forward to receiving a copy of that study, why would it make sense that chartering would be more efficient to the government than government ownership?

Mr. GAITHER. I think that point has yet to be proven. And it has in both private sector cases and in some public sector cases proven to be advantageous from a cost point of view. The key to this is the ability of NOAA to execute a long-term charter. And they may either follow the path of simply chartering, or they may charter with an option to buy at the conclusion of the charter period. We feel, however, that based on the cost data that we gathered that until a detailed request for proposal is put forth with serious NOAA intention to follow through, if it appears attractive, it will not be possible to determine the answer to that question with any accuracy.

Mr. LOWRY. Well, are these ships and equipment available now, or would the private firms go out and build them and make a charter with the government?

Mr. GAITHER. In all likelihood if a long-term charter opportunity were available, the private sector would build ships to suit the mission. This is the reason that the committee has recommended that NOAA conduct a study which would examine, or determine if you

will, what is the idealized fleet to meet its present and projected needs. Out of this then, would come, if you will, the specification for the mission and if that were put out and incorporated in a request for proposal, it would permit the private sector then to exercise inventiveness and creativity in the design of ships that would best fulfill those missions that NOAA sought to have carried out through charter. So there's reason for optimism.

Mr. LOWRY. Now in your developing of your report, you worked with private companies in the private sector? What were the type of private sector companies that you worked with in developing this methodology comparison?

Mr. GAITHER. We worked with seven private sector companies. And these were ones which have traditionally offered charter vessels to other branches of the Federal government, and in most cases are doing it now. And thus we felt that they had reasonable familiarity with the circumstances surrounding chartering, and in some cases building to charter, to the Federal government. Also we contacted organizations that charter to private sector.

Mr. LOWRY. Now, the experience of them providing this chartering service to other Federal agencies, was that with high technology equipment, the type of equipment we'd be talking about here?

Mr. GAITHER. Yes, I certainly believe that we'd consider the ocean drilling equipment to be very high technology, dynamic positioning, things of that sort, clearly high technology.

In the private sector, geophysical surveying, again what corporations are absolutely dependent on for their future expenditure of exploration dollars, yet probably over 90 percent of that work is done by charter vessels.

Mr. LOWRY. In long term charters—what's a long term charter?

Mr. GAITHER. A long term charter we felt was certainly beyond two years, and in the order of ten. In other words a reasonable time over which an organization could build and recover costs at a reasonable rate. So let's say a long term charter would be with the intent of entering an agreement for say, 10 years.

Mr. LOWRY. Is that cost analysis totally void of any tax benefits to the private company? I mean, is it evaluated separate from any potential tax benefit?

Mr. GAITHER. The private company would make its proposal in accordance with the appropriate tax laws that were on the books at the time, and I'm sure would attempt to make advantageous use of any incentives that were included in the tax laws.

Mr. LOWRY. You know, we went through a little experience here a couple of years ago of leasehold taxing that I wouldn't try to wander into at this time, without some real good advice sitting at my elbow. It was extremely complicated and extremely expensive to the U.S. Treasury. Now, there was a lot of work done to correct that, and again, I would need real good advice to show me how much has been corrected as far as, for instance, applying it to this question. Again, within the methodology would that be evaluated as to the cost to the government?

Mr. GAITHER. I believe that the submission of private contracts in response to a request for proposal would attempt to optimize the offering by the private sector to the government within the framework of available tax legislation. If there were to be a further anal-

ysis of possibly detrimental affects that would result as a consequence of accepting these charters, I think that would be up to the government to either request it be highlighted in the request for proposal, or to analyze after it received the proposals.

Mr. LOWRY. Would that topic in your report that you're sending to NOAA? Would you be mentioning to them to make that evaluation?

Mr. GAITHER. We did not dwell extensively on the analysis of tax incentives or disincentives, but implicit in our report is a thorough and even handed, an expectation of an thorough and even handed evaluation looking at the total cost to the taxpayer.

Mr. LOWRY. All right.

Thank you.

Does the gentleman from California have any questions at this time?

Mr. HERGER. I have no questions, Mr. Chairman.

Mr. LOWRY. Thank you very much for joining us.

Gentlemen, thank you very much, and we'll look forward to getting that additional information when it's available. Thank you very much for joining us today.

The hearing is adjourned.

[Whereupon, at 11:35 a.m., the subcommittee was adjourned.]

[The following was received for the record:]

U.S. House of Representatives
Committee on
Merchant Marine and Fisheries
Room 1334, Longworth House Office Building
Washington, DC 20515-6230

March 8, 1988

M E M O R A N D U M

TO: MEMBERS, SUBCOMMITTEE ON OCEANOGRAPHY

FROM: STAFF, SUBCOMMITTEE ON OCEANOGRAPHY

RE: MARCH 9, 1988, HEARING ON THE FY 1989 BUDGET PROPOSAL FOR THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

At 10:00 a.m. on March 9, 1988, the Subcommittee on Oceanography will hold a hearing on the FY 1989 budget proposal for NOAA. The witnesses will be Mr. John Carey, Deputy Assistant Administrator, Ocean and Coastal Zone Management, accompanied by Dr. Alan R. Thomas, Deputy Assistant Administrator, Oceanic and Atmospheric Research, of NOAA; Dr. William Gaither, Chairman, Committee on Alternative Strategies for Obtaining Ship Services; Mr. Frank Press, President, National Academy of Science; and Captain Gilbert L. Kraine, U.S. Coast Guard, retired, Manager, Special Projects, Advanced Technology, Inc., to discuss the status of the NOAA fleet.

I. BACKGROUND AND GENERAL BUDGET SUMMARY

The NOAA budget is composed of several accounts, the primary one being the Operations, Research, and Facilities (ORF) account which accounts for 95% of the Administration's FY 1989 funding request. The ORF account incorporates the majority of NOAA's programmatic activities and the administration of these activities. Other accounts include special funding activities such as the fisheries loan and guarantee funds, special claims and observer funds, and trust funds. The ORF account includes: National Ocean Service (NOS); National Marine Fisheries Service (NMFS); Oceanic and Atmospheric Research (OAR); National Weather Service (NWS); and National Environmental Satellite, Data, and Information Services (NESDIS). Of main interest to the Subcommittee is the budget for the National Ocean Service (NOS) and Oceanic and Atmospheric Research (OAR).

The total FY 1989 funding requested for ORF is $1,133,171. The total funding for FY 1989 represents a decrease of $40,489,000 from the total program of $1,173,660 in FY 1988.

The following is a breakdown of the Administration's ORF account request.

NOAA ORF Account Request for FY 1989 (in thousands)

Function	FY 88 Program Levels Appropriated and Fund Transfers	FY 89 Proposed	% Changed
NOS	116,705	71,444	-39
NMFS	162,015	96,766	-40
OAR	141,258	98,130	-31
NWS	331,951	333,366	+ .4
NESDIS	300,454	408,761	+26
Program Support	121,276	124,704	+ 2.7
	1,173,660	1,133,171	- 3.4

II. NATIONAL OCEAN SERVICE

The National Ocean Service provides for management of ocean and coastal resources, particularly in the 200-mile Exclusive Economic Zone; improvements in the quality, quantity, geographic distribution, and timeliness of ocean observations; the conservation, rational use, and charting of the nation's coastal regions; production of aeronautical and nautical charts; and geodetic surveys. The programs funded under this budget activity include activities related to licensing responsibility for deep seabed hard minerals, ocean services, the Coastal Zone Management Program, and the Mapping, Charting, and Geodesy Program.

The total FY 1989 request for these programs is $71,444,000 compared with the FY 1988 Congressional appropriation of $116,705,000 a decrease of 39 percent.

Among the specific highlights for the National Ocean Service budget proposal are:

Mapping, Charting, and Geodesy Program --

- An increase of $1,660,000 million for the development of an improved production capability for the Next Generation Cartographic products. This modernization will be accomplished through the development of an automated nautical charting system II (ANCS II) that will provide digital charting products. In FY 1989, NOAA will increase public chart prices by approximately $1 per chart to recover the requested budget authority. Under the terms of the FY 1986 budget reconciliation law, NOAA is allowed to recover the costs of public data base maintenance, compilation, printing, and distribution.

- A decrease of $2,683,000 for Mapping, Charting, and Geodesy Programs. $377,000 is for the termination of state-specific geodetic surveys; $471,000 is for a decrease in the Vertical Control Network Program; and $1835,000 is for the termination of the multipurpose cadastre program. According to the Administration, these

programs are decreased because they are "associated with lower priority activities and those that are of specific interest to individual states."

Observation and Assessment --

- A decrease of $282,000 is requested in the Marine Boundary Program which establishes the extent of the state offshore resources. According to the Administration, this reduction "anticipates increased cost sharing with the states."

- A decrease of $3,389,000 and 10 positions is requested for the Ocean Services Program. According to the Administration, the decrease "is the result of plans for the Navy and the National Weather Service to fund these activities to improve their forecast capabilities."

- A decrease of $6,025,000 and 20 positions is requested for the Ocean Assessments Program. This decrease would be spread over the following activities: (1) the National Status and Trends Program, which assesses environmental status and measurements of the concentrations of synthetic organics and other toxic compounds in mussels, clams, oysters, bottomfish, and sediments at 150 sampling sites throughout the U.S.; (2) Long Island Sound environmental assessment project; (3) applied research and assessments of the environmental quality (particularly the effects of toxic compounds on the reproductive capabilities of fish populations); (4) generic ocean disposal assessment and research activities; and (5) resources allocated to development of and adherence to strict quality assurance procedures in the collection and analysis of samples.

  According to the Administration, all of the above proposed decreases "are associated with lower priority program activities which can be eliminated or provided by the private sector."

Ocean and Coastal Management --

- A decrease of $36,212,000 is requested to terminate the program administration grants in the Coastal Zone Management Program. This program was established in 1972 to assist states in developing the capability to manage their coastal resources. The program was reauthorized in the 99th Congress for five years, with the requirement that states increase, on a yearly basis, their percentage of matching funds. According to the Administration, "this program has achieved its goal by successfully developing the infrastructure to manage these resources and was not intended to provide continuing support for the state programs."

- A decrease of $1,506,000 is requested to limit to one the acquisition of new estuarine reserve sanctuary sites in FY 1989. According to the Administration, this is all that is needed because "by the end of FY 1989, 17 sanctuaries will be been established. The remaining funds are sufficient to manage and conduct research in these existing sanctuaries."

- A decrease of $314,000 is proposed to reduce on-site, management-related research activities at the eight designated marine sanctuary sites. The Administration is currently considering three new designations during fiscal years 1988-89, including Cordell Banks off the coast of California, Flower Garden Banks off the coasts of Texas and Louisiana, and Norfolk Canyon off the coast of Virginia.

III. OCEANIC AND ATMOSPHERIC RESEARCH

NOAA's Office of Oceanic and Atmospheric Research (OAR) has four major roles: (1) develop the understanding of techniques for improved public services by NOAA's "service" arms (e.g., NOS, NWS); (2) ensure the transfer of those improvements to service arms; (3) obtain the understanding of environmental systems needed for national policy formulation (acid rain, "greenhouse" gases); and (4) enhance our ability to make use of natural resources from the sea (fisheries, pharmaceuticals, minerals).

Among the specific highlights of the Oceanic and Atmospheric Research budget proposal are:

Climate and Air Quality --

- An increase of $12,000,000 is requested to enhance NOAA's climate prediction capabilities through an integrated program in Climate and Global Change on a national and international basis. This $12,000,000 will be supplemented by $3,000,000 from the Tropical Ocean-Global Atmosphere (TOGA) program, for a total of $15,000,000.

- A decrease of $1,205,000 to reduce funding for Regional Climate Centers (New York, Illinois, Nebraska, and Nevada). The Administration argues these are local/state responsibilities.

OCEAN AND GREAT LAKES PROGRAMS --

- A decrease of $1,507,000 is requested to reduce research activities at the Great Lakes Environmental Research Laboratory (GLERL). This laboratory conducts environmental research with special emphasis on developing prediction tools for improved Great Lakes impact assessment and forecasting. According to the Administration, "in order to focus Federal expenditures on

activities that are clearly the responsibility of the Federal government, NOAA proposes to reduce Great Lakes hazards and related research, particularly research on ice hazards, surface waves, and water level fluctuations."

- o A decrease of $1,695,000 is requested to eliminate the research program to understand the ocean chemical and thermal effects of hydrothermal processes at seafloor spreading centers (VENTS). According to the Administration, "the decision to delay further research on this program to a later date is based upon two factors. First, the research conducted by NOAA in FY 1984 through FY 1987, along with the research sponsored by universities, the National Science Foundation, and the U.S. Geological Survey, will provide an adequate basis for understanding general seafloor spreading processes related to the formation and distribution of polymetallic sulfide deposits. Second, commercial development of such deposits is unlikely for some time because of the current state of the metals market and present projections of high costs associated with recovery of polymetallic sulfides from the seafloor."

- o A decrease of $38,179,000 is requested for the National Sea Grant Program. This request would close out the National Sea Grant College Program after FY 1988. According to the Administration, "Sea Grant was intended to create a network of colleges and universities with strong programs in marine education research. That goals has been realized and these established Sea Grant programs should now be fully supported by other Federal research programs (e.g., NSF, DOI, DOD), non-Federal (e.g., state government) and private sources." The Sea Grant program was reauthorized by Congress for an additional three years last December.

Undersea Research Program --

- o A decrease of $11,600,000 is requested to eliminate the NOAA Undersea Research Program (NURP).

  Specifically, the decrease will terminate funding for the use of deep and shallow water submersibles; the NOAA support (one-fifth) for the deep sea research vessel ALVIN; studies of underwater diving technique and equipment; biomedical research; and NOAA support of the six undersea research programs administered regionally. According to the Administration, "these programs are not central to NOAA's basic mission, but are largely of state and regional concern and should be funded from private and state sources or by other Federal agencies providing direct support for marine research and development."

IV. PROGRAM SUPPORT

Marine Services --

- o A decrease of $6,838,000 is requested for this subactivity. NOAA has requested the Marine Board of the National Academy to study the prospect of chartering out for vessel support as compared to the use of NOAA vessels.

  Pending the outcome of the study, NOAA plans to achieve savings through the deactivation of the DAVIDSON, McARTHUR, ALBATROSS IV, OREGON II, JOHN N. COBBE, AND MURRE II, and by reducing days-at-sea on the DISCOVERER, MALCOLM BALDRIDGE, SURVEYOR, MILLER FREEMAN, TOWNSEND CROMWELL, DAVID STAR JORDAN, and DELAWARE II.

V. NATIONAL MARINE FISHERIES SERVICE

These programs provide for the management and conservation of the Nation's living marine resources and their environment including marine mammals and endangered species. Program changes will reduce information collection and analyses and related research, as well as regulatory and management operations. Programs that primarily support local and private sector interests such as aquaculture research, fisheries trade, and some fisheries grant programs will be terminated. The Administration's request includes $69,000,000 in reduced funding for NMFS.

VI. NATIONAL WEATHER SERVICE

These programs provide timely and accurate meteorological, hydrological, and oceanographic warnings, forecasts, and planning information. Additional funds are proposed for development and acquisition of Doppler weather radars (NEXRAD), and automated surface observational equipment. Specialized weather service which can be conducted by the private sector will be reduced or eliminated.

VII. NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICES

These programs provide for the operation of environmental polar-orbiting and geostationary satellites; provide for the subsidy of a commercially operated Landsat system; provide for global environmental data and information products and services to users in commerce, industry, agriculture, science and engineering, and the general public, and various government agencies. A decrease in Government funding for the Landsat 4 and 5 system is proposed because the satellites will have reached the end of their design lives in 1988. Funding for new polar orbiting and geostationary satellites is requested. Most of the increases in the NOAA budget over the past five years has occurred in this area for the purchase, launch, and operation of satellite hardware.

VIII. POSSIBLE AREAS OF IMPROVEMENT IN NOAA's BUDGET PROCESS

Many argue that the budget process could be improved by splitting NOAA's budget into two parts, including one for program and one for capital. It is argued that this would facilitate long-range planning, and it would make possible better comparison of program activities from year to year. It has also been suggested that NOAA could participate more effectively in the budget process by working through the energy and science directorate within the Office of Management and Budget (OMB) as do other independent science-related agencies such as NASA and NSF. NOAA currently works through the economic and finance division of OMB because NOAA is a part of the Department of Commerce.

IX. MAJOR ISSUES TO BE CONSIDERED

The FY 1989 NOAA budget proposal contains numerous alterations in existing programs. Many of the proposed changes have been requested in previous years and have been controversial. Significant issues associated with this year's budget proposal are outlined below:

1. Elimination of the National Sea Grant College Program by requested no additional funding for FY 1989;

2. Elimination of the Coastal Zone Management Program by requesting no new state or interstate funding for FY 1989;

3. Elimination or reduction of various ocean research and pollution monitoring programs;

4. Deactivation of six NOAA research vessels and reduced days-at-sea for seven additional research vessels; and

5. Reduction of $4,700,000 for implementation of the Pacific Salmon Treaty.

STATEMENT OF JOHN J. CAREY
DEPUTY ASSISTANT ADMINISTRATOR
NATIONAL OCEAN SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

BEFORE THE

SUBCOMMITTEE ON OCEANOGRAPHY
COMMITTEE ON MERCHANT MARINE AND FISHERIES
U.S. HOUSE OF REPRESENTATIVES

MARCH 9, 1988

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to discuss elements of the President's FY 1989 budget request for the National Oceanic and Atmospheric Administration's (NOAA) ocean and coastal programs.

NOAA's ocean and coastal programs encompass a number of the activities of the National Ocean Service (NOS) and of the Office of Oceanic and Atmospheric Research (OAR). These activities include, among others, mapping and charting; ocean and coastal resource management; operation of the NOAA fleet; ocean research;

and ocean services -- ranging from production and dissemination of technical products to support safe navigation to assessments of the effects of man's activities on the ocean, coastal and estuarine environments.

OCEAN PROGRAM AUTHORITIES REQUIRING REAUTHORIZATION

The authorization for appropriations for two of NOAA's ocean programs expired at the end of FY 1987, and one will expire at the end of FY 1988. For the two that expired at the end of FY 1987 -- Title II of the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA), and the National Ocean Pollution Planning Act (NOPPA) -- the Department of Commerce submitted legislation to reauthorize appropriations to this Congress during the first session. For the one that will expire at the end of FY 1988 -- Title III of the MPRSA, as amended -- the Department of Commerce will submit a reauthorization and amendment proposal to the Congress early this session.

MPRSA Title II

The legislation submitted for Title II of the MPRSA would authorize appropriations for the Secretary of Commerce for FY 1988 and 1989 to carry out research on the effects on ocean ecosystems of ocean dumping and other man-induced changes.

NOPPA

The legislation submitted for NOPPA would authorize appropriations for the Secretary of Commerce for FY 1988 and FY 1989 to carry out the Department's responsibilities under that Act. NOPPA directs the Secretary to establish a comprehensive five-year plan for ocean pollution research, development, and monitoring to coordinate all Federal activities in these areas. NOAA is the lead agency under the Act, responsible for preparing the plan, executing the coordinated Federal program, and reviewing the budget requests of other affected departments and agencies for ocean pollution research, development and monitoring. The legislation would allow the National Ocean Policy Planning Board to continue to review and make recommendations on ocean pollution programs but would restore the budgetary oversight role to the President.

MPRSA Title III

Legislation to reauthorize appropriations for, and amend, Title III of MPRSA, which deals with marine sanctuaries, is presently being drafted and will be transmitted to the Congress shortly.

4

OCEAN AND COASTAL PROGRAMS AND THE FY 1989 NOAA BUDGET REQUEST

Mapping and Charting

NOAA and the U.S. Geological Survey (USGS) are now in the fifth year of a joint program to systematically survey and map the U.S. Exclusive Economic Zone (EEZ). The program is intended to produce bathymetric maps and corresponding data sets using state-of-the-art survey systems on NOAA's survey ships. Priority EEZ areas of the West Coast, East Coast, Gulf Coast, Hawaii and Alaska will be emphasized during FY 1989, on the basis of USGS requirements.

During FY 1989 NOAA will continue to provide updated nautical charts and related navigation products for the 3.4 million square miles of U.S. ocean and coastal waters. Maintenance of the 975 nautical charts will continue, and 70 hydrographic field surveys are planned for processing in FY 1989 to support chart upgrading and revisions. Over a period of several years, the charting process will become more efficient and produce digital products needed by a wide array of users, through implementation of the Automated Nautical Charting System II (ANCS II). The President's FY 1989 budget includes a request for $1.66 million in new budget authority to fund ANCS II.

We propose to offset the cost of ANCS II with a user fee increase of approximately $1 per chart. This proposal is consistent with Public Law 99-272 which authorizes NOAA to to recover costs of data base management, compilation, printing and distribution of nautical products. Also in FY 1989, the third stage of user fee price increases for public users to cover nautical chart program costs will occur, with prices rising to an estimated $14 per chart, compared to the present level of $12.

Sea Grant

The objective of the National Sea Grant College Program was to establish a network of colleges and universities with strong programs in marine research and education. To accomplish this, the Federal Government has awarded over $494 million to colleges and institutions with approved Sea Grant programs. With 22 colleges and seven institutions having approved Sea Grant programs, this objective has been achieved. Fifteen States are now providing funding for Sea Grant studies and research. Complete funding responsibility for the Sea Grant colleges and institutions should now be assumed by the non-Federal and private sector interests which are the principal beneficiaries of the program which has been oriented toward local, State, and regional needs. Consequently, the President's budget request proposes that Federal funding for Sea Grant be terminated.

The NOAA Fleet

The ships of NOAA's fleet provide seagoing platforms for acquisition of data and information in support of NOAA's programs and those of other organizations. NOAA's objective in managing the fleet is to increase the efficiency of the ships needed to meet essential program responsibilities, while achieving savings by taking out of service those ships not required for priority programs. For FY 1989, we plan to undertake 2,570 days at-sea on 15 ships. These ships will be engaged in oceanographic research, fisheries research, nautical charting, EEZ surveying, and pollution monitoring, with some of the ships working on multiple projects.

Deep Seabed Hard Mineral Resources

Although commercial-scale operations under the Deep Seabed Hard Mineral Resources Act are not expected to be achieved for some years, NOAA decided to develop commercial regulations, in order to allow U.S. consortia to proceed with necessary planning and related activities. Proposed rules were published in mid-1986, and the public comment process continued until late 1986. Public comments on the proposed rules have been reviewed and relevant provisions in the regulations re-drafted to respond to those comments in the context of statutory responsibilities.

The comments have been incorporated into the final rules and the clearance process has begun. FY 1989 activities will focus on oversight of licensees' exploration activities and research on certain mining-related environmental questions.

Coastal Zone Management

Since 1972 States and territories have received more than $600 million from the Federal Government in matching funds in the form of grants for the development and implementation of their coastal zone management programs, as well as for coastal zone resource management. Now that 29 coastal States and territories covering 94 percent of the coastline have Federally-approved coastal management programs, the objectives of the Federal funding have been achieved. Accordingly, the President's FY 1989 budget request proposes that funding for development grants be terminated. However, it proposes continued funding for activities which require continued Federal involvement such as program monitoring, coordination, evaluation and technical assistance to ensure consistency with national coastal zone policy.

Marine Sanctuaries and Estuarine Research Reserves

NOAA operates two programs to manage specific marine and estuarine areas for research and education. Under the National Estuarine Research Reserve System, States and territories receive

financial assistance in the form of matching grants to acquire, develop and operate high quality estuarine areas as natural field laboratories and estuarine education centers. Sixteen reserves have been designated to date, and two new Reserves -- Waquoit Bay, Massachusetts, and Great Bay, New Hampshire -- should be designated shortly.

Under the National Marine Sanctuary Program, NOAA directly designates and manages marine areas with conservation, recreational, historical or ecological significance. The FY 1989 focus for this program will be revision of the natural areas Site Evaluation List (SEL) of potential new sites, creation of an historic resources SEL, and designation of Flower Garden Banks as our ninth sanctuary.

Ocean Observations and Assessments

The purpose of the ocean observations program is to improve NOAA's capability to predict changes in the global ocean environment over a wide range of time scales. The program goal is to collect all appropriate ocean data in real-time, quality control the data, and ingest it into forecast models to improve operational weather forecasts as well as long-term predictions for global change. We are in the process of establishing a continuous real-time quality control procedure to ensure the accuracy of all data entered into predictive models.

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We are conducting an inventory and analysis of all Federal ocean data collection platforms. The purpose of this effort is to determine platform locations and the types of ocean data being collected. In addition, we will determine whether the data are used efficiently to improve our prediction capabilities. This inventory also will be used in the establishment of future ocean data requirements.

In other efforts to improve our observation capabilities, NOAA has redirected its circulation program from a field survey program to application of numerical models to support new products and services while reducing the field data collection activities. A tidal circulation atlas for the Columbia River will be produced from the model developed in fiscal years 1987 and 1988. Quality assurance data to determine the accuracy of tidal current predictions will be collected in Galveston Bay.

In FY 1989 NOAA will continue to implement the Next Generation Water Level Measurement System. About 200 modern sensor units (tide gauges) will be installed to provide real-time telemetry capability to improve quality, accuracy and timeliness of water level products and information for coastal areas and the Great Lakes. NOAA's software program called "TIDES ABC" for use with IBM-compatible personal computers will allow users to acquire real-time and predicted water level data from tide stations using the new sensors.

In response to increasing interest in the development of the EEZ and coastal areas, NOAA will provide information products and services for offshore and coastal areas ranging from long-term strategic assessments of national marine environmental quality issues to real-time tactical advice provided during responses to spills of hazardous materials. Strategic assessment information, in the form of a series of atlases and geographic information systems of important characteristics of major coastal and oceanic areas, is being prepared and maintained. A data atlas for the West Coast and the Gulf of Alaska will be completed and the East Coast Data Atlas will be revised during FY 1989. The National Coastal Pollutant Discharge Inventory and the National Estuarine Inventory also will be updated.

National Ocean Pollution Program Office (NOPPO)

NOAA has responsibility under the National Ocean Pollution Planning Act (NOPPA) for establishment and support of the National Ocean Pollution Policy Board ("the Board"). Thirteen departments and agencies which support marine pollution studies are represented on the Board, as well as the Office of Management and Budget and the Office of Science and Technology Policy. The major functions of the Board are to improve coordination of Federal marine pollution research, development and monitoring programs and to facilitate review of progress made by these programs. The Board has met four times each year since it was established under the 1986 amendments to the NOPPA. The NOPPO will continue its staff support to the Board in FY 1989.

The next revision of the 5-year Federal Plan for Ocean Pollution Research, Development and Monitoring will be transmitted to the Congress by the end of FY 1988. The Plan will evaluate the effectiveness of ongoing and planned Federal research and monitoring programs in a number of areas. During FY 1989, the Board will focus on implementation of recommendations reached in the latest version of the Plan.

In conclusion, I want to assure the Subcommittee that NOAA is eager to work with you on the entire range of ocean and coastal issues of mutual concern. Thank you.

Testimony Before the Subcommittee on Oceanography of the House Committee of the Merchant Marine and Fisheries March 9, 1988

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On May 20, 1987, Advanced Technology, Inc. (ATI) was awarded a contract by the National Ocean Service (NOS) of the National Oceanic and Atmospheric Administration (NOAA) to assess the condition of the 23 ships of the NOAA Fleet and develop an Upgrade Plan. I was assigned as the ATI program manager for the work. First, I would like to describe my background and experience to establish my credentials for being charged with this task.

I graduated from the U.S. Coast Guard Academy in 1950 with a Bachelor of Science in Engineering. Subsequently, I received a Masters degree in Naval Architecture and Marine Engineering and a Naval Engineer's degree from the Massachusetts Institute of Technology in 1958. I also hold an MBA in Finance from the Old Dominion University. During my Coast Guard career, I have held a variety of positions directly responsible for the design, construction, alteration, maintenance and repair of Coast Guard cutters and commercial vessels. Since retiring from the Coast Guard, I have held management positions at several shipyards before joining Advanced Technology, Inc.

Currently, in addition to the work for NOAA, I have been engaged in several projects for the Naval Sea Systems Command (NAVSEA) involving the design and construction of various ships. This includes the introduction of an innovative, twin skeg hull design and the application of improved producibility techniques to the design process.

I believe that a brief description of the procedures and methods we used to perform the task is in order.

I headed up a team of engineers with marine, electronic and industrial engineering backgrounds as applied to ship design, construction, operation, maintenance and repair. We visited the National Ocean Service (NOS) headquarters, the Atlantic and Pacific Marine Centers, and the ships of the NOAA fleet. We interviewed the personnel involved in vessel maintenance and operations, and the key shipboard personnel including the Commanding Officer, Executive Officer, Chief and Assistant Engineers, electronic technicians, boatswain, steward and scientific personnel. We inspected the records for each ship and extracted pertinent data regarding past problems and casualties, repairs, actual costs, and planned future maintenance activities.

We also visited every ship with the exception of the MURRE II and physically inspected the ships. We entered every accessible space and inspected all major systems and items of machinery and equipment. The inspection was performed at dockside during brief in-port periods during the heaviest operating season of the fleet. Generally, we were not able to observe the ships underway except in isolated cases. However, we did ride several of the ships when the opportunity presented.

As a result of our visits, interviews, inspections and file searches, we developed a detailed assessment for each ship. The assessment was then analyzed to identify the work which would be required to extend the life of the ship, improve the ability of the ship to perform its mission, and increase the ship's productivity or efficiency. The analysis addressed each item of equipment or machinery. A proposed repair or replacement plan was developed and the cost of the work was estimated. Equipment repair was the preferred approach except when replacement was required by advanced deterioration, the mission criticality of the

item, the availability of replacement parts or when overhaul costs exceeded replacement costs.

In the analysis phase, we developed a complete listing of the work required to extend the life of each ship or improve its capability to perform its mission. This therefore became the description of the upgrade project for that ship.

The various upgrade projects for the ships were then scheduled for performance over the period from Fiscal Year 1990 through 1999. There are some caveats on the use of this study.

First, we were not tasked to review the scientific instrumentation in use aboard the ships. We did include laboratories and scientific spaces but did not address the need for upgrade of the scientific equipment in the spaces except for navigation and communications equipment used for normal ship operations.

Second, we were directed to assume that the current operational profile for each ship would continue in the future . We did not address the operational requirements for the ship.

Finally, all dollar estimates were based upon 1987 dollars.

The report is now in the production phase. The required 20 bound copies of each volume will be delivered to NOS in the near future. As for the results of our task, we evaluated the NOAA fleet as being in better condition than commercial vessels of the same age, especially considering the demanding operational schedules and the limited maintenance funding. There are many hardworking and dedicated people in NOAA, both ashore and aboard the ships, who have performed admirably in the maintenance and repair of the ships over many years. NOAA's decentralized approach to maintenance is highly dependent on the competancy of the personnel. However, there are some problem areas and problem ships.

The basic problem facing the NOAA fleet is "block obsolescence". Twenty of the 23 ships were built in the 1960s and only one since then. Ships have a normal life expectancy of 20 to 25 years. By that age, the obsolescence of some of the installed equipment and machinery, deterioration of systems and structures, and technological advances generally will require major maintenance efforts to continue the satisfactory operation of a ship. The bulk of the NOAA fleet is at that stage now. NOAA's diligent maintenance programs have helped to keep the vessels in a condition which makes the majority of them excellent candidates for service life extension programs. It is therefore our recommendation that such a program be undertaken immediately. Significant delays in embarking on an upgrade program may result in replacement being the only option left open to NOAA.

In assessing the NOAA fleet, we did identify four ships which we recommend for replacement rather than a full, service life extension, upgrade program. These ships are the:

ALBATROSS IV
TOWNSEND CROMWELL
JOHN N. COBB
SURVEYOR

The ALBATROSS IV is a 26 year old ship which was poorly conceived and designed and inexpensively constructed. The ship has many problem areas. Among them are corrosion problems in the hull and aluminum superstructure and an obsolete electrical distribution system partially converted from DC to AC. Attempting to extend the life of the ALBATROSS IV is estimated to cost $8.5 million and it is doubtful that the final results would prove satisfactory. We therefore recommend replacement.

The TOWNSEND CROMWELL is a 25 year old ship operating beyond the limit of its capabilities and with almost no capacity for expansion.